

ANTI-CORROSION PROTECTION OF THE DUPLEX TYPE



*To protect the steel, we use double anti-corrosion protection of the DUPLEX type, consisting in covering the steel with a layer of zinc and painting it with powder paint. The zinc coating protects the steel surface against corrosion, while the paint layer protects the zinc against the harmful effects of weather conditions. In addition, the use of a paint coating ensures perfectly smooth coatings without cracks, stains or bubbles. Thanks to the use of this method, not only is the time of using the fence longer, but also the maintenance costs are reduced. The paint coating itself ages relatively quickly. The influence of atmospheric activities and chemical pollutants negatively influences its flexibility and durability. On average, every 6 - 7 years, the fence requires maintenance, subsequent painting, and often the appropriate preparation of the mechanical fence, which is why the cost of such activities increases over time. **The zinc coating provides long-term protection of steel against corrosion without the need for renovation** , which is a major factor determining its economy. The cost of hot dip galvanizing turns out to be low after taking into account the benefits of this method. Therefore, the greater cost of galvanized and powder coated fences pays off quite quickly. Our anti-corrosive, galvanized and powder coated products have a **5-year warranty** .*

GALVANIZING

Galvanization is the process of applying a protective zinc coating to steel or iron in order to prevent premature rust and corrosion. ... The corrosion of zinc is very slow, which gives it an extended life while it protects the base metal.

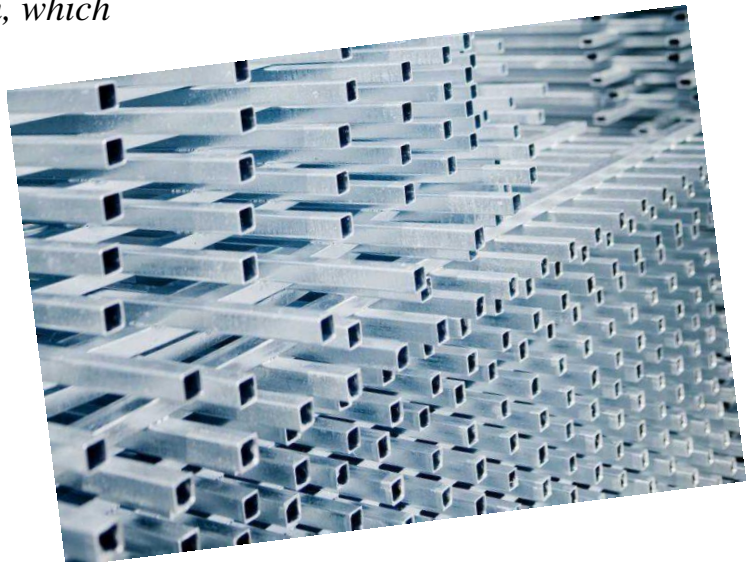
*Some of the fences are galvanized. This is mainly done to **increase corrosion protection** . The zinc coating shows in urban and industrial environments from several to several times greater corrosion*

*resistance than non-galvanized steel. Zinc is the thirtieth element on the Mendeleev Periodic Table, but **number one on the list of the most durable corrosion protection** . The anti-corrosive properties of zinc coatings are based on the fact that zinc creates **an extremely resistant and sparingly soluble covering coatings** . They are formed upon contact with air and water. **The zinc coating protects the steel for many years and requires no maintenance.** Our extends its durability and gives the fences the*



company desired aesthetic value by covering the galvanized surface with an additional paint coating.

*One of the methods we use is **the hot dip galvanizing method** . This technology uses the phenomenon of diffusion, which consists in penetration of zinc atoms into the outer layer of steel during "bath" in molten zinc. In this way, an iron-zinc alloy is formed on the surface of the steel element. When a galvanized object is removed from the zinc bath, a layer of pure zinc remains on the outer surface of the alloy. The presence of alloy layers makes the zinc coating inseparably bonded to the steel substrate.*



*Some of the fences are left after galvanization, then they retain a specific silvery color. The vast majority of fences are **additionally painted with powder paint** , which is an additional anti-corrosion protection, the so-called **DUPLEX system**.*

PAINT-SHOP POWDER COATING

Powder coating provides better performance than wet paint—it is more resistant to chipping, scratching, and other wear because of the thermal bonding it undergoes during curing, and because it can be applied in much thicker layers. In addition to its physical toughness, powder coating provides superior color retention.

The entire production process ends with a visit to the paint shop, i.e. to a modern powder coating line . Each product is cleaned before painting to obtain 100% purity of the semi-finished product. Due to this, the paint acquires high adhesion. Powder coating consists in applying electrified particles of powder paint to the conductive surface of fences. The deposited powder layer remains on the surface of the painted detail due to electrostatic forces. Then the painted elements are heated to a temperature of 140 to 200 ° C, as a result of which the powder melts and polymerizes. The resulting paint coating is resistant to corrosion, harmful atmospheric and chemical factors, high temperature and mechanical damage. Nevertheless, it is recommended to paint the fences immediately after purchase in order to increase protection against the harmful effects of external factors.

